

In the Claims

Claim 8 has been cancelled without prejudice.

Claims 1, 2, 3, 4, 5, 9, and 12-15 have been amended as follows:

1. (Currently amended) A ring relay control unit of a foreign exchange station for signaling a subscriber telephone, the ring relay control unit comprising:

a main control unit for generating a relay interrupt command;

a relay control device connected to the main control unit to generate ~~a relay control signal~~ and a ring generation inhibit signal in response to the relay interrupt command to disable generation of a ring signal from the main control unit;

a ring signal generator connected to the relay control device ~~[[for]] to generate[[ing]]~~ a ring signal to the subscriber telephone in response to the ring generation inhibit signal~~[[,]]~~ and ~~[[for]] to transmit[[ting]]~~ a synchronous signal to the relay control device,

wherein ~~the relay control device generates~~ the relay control signal is generated in response to the synchronous signal; and

a relay for selectively transferring the ring signal to the subscriber telephone from the ring signal generator in response to the relay control signal, wherein the synchronous signal controls timing of the relay control signal to selectively transfer one of the ring signal or a call signal to the subscriber telephone.

2. (Currently amended) The ring relay control unit of claim 1, ~~further comprising: a SLIC for interfacing a call signal to the subscriber telephone~~, wherein the relay ~~selectively initiates transfer[[s]] the call and of~~ the ring signal to the subscriber telephone ~~from the SLIC and the ring signal generator upon a low voltage period of the ring signal to prevent damage to and reduce switching noise generated by the relay.~~

3. (Currently amended) The ring relay control unit of claim 1, wherein the ring signal generator generates the synchronous signal transferred to the relay control device is a zero-crossing synchronous signal.

4. (Currently amended) The ring relay control unit of claim 2 A ring relay control unit of a foreign exchange station for signaling a subscriber telephone, the ring relay control unit comprising:

a main control unit for generating a relay interrupt command;

a relay control device connected to the main control unit to generate a relay control signal and a ring generation inhibit signal in response to the relay interrupt command from the main control unit;

a ring signal generator connected to the relay control device for generating a ring signal to the subscriber telephone in response to the ring generation inhibit signal, and for transmitting a synchronous signal to the relay control device, wherein the relay control device generates the relay control signal in response to the synchronous signal;

a relay for selectively transferring the ring signal to the subscriber telephone from the ring signal generator in response to the relay control signal;

a SLIC for interfacing a call signal to the subscriber telephone, wherein the relay selectively transfers the call signal and the ring signal to the subscriber telephone from the SLIC and the ring signal generator,

wherein the relay control device generates the relay control signal to interface the relay to the SLIC and transmits the ring generation inhibit signal to the ring signal generator if the relay interrupt command is received from the main control unit to interface the call signal to the subscriber telephone.

5. (Currently amended) A ring relay control unit of a foreign exchange station for signaling a subscriber telephone, the ring relay control unit comprising:

a main control unit for generating a relay interrupt command;

a relay control device connected to the main control unit to generate a relay control signal and a ring generation inhibit signal in response to the relay interrupt command from the main control unit;

a ring signal generator connected to the relay control device for generating a ring signal to the subscriber telephone in response to the ring generation inhibit signal, and for transmitting a synchronous signal to the relay control device, wherein the relay control device generates the relay control signal in response to the synchronous signal; and

a relay for selectively transferring the ring signal to the subscriber telephone from the ring signal generator in response to the relay control signal

~~The ring relay control unit of claim 1~~, wherein the relay control device comprises a D flip-flop for generating the relay control signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

6. (Original) The ring relay control unit of claim 4, wherein the relay control device comprises a D flip-flop for generating the relay control signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

7. (Original) The ring relay control unit of claim 5, wherein the relay control device comprises a second D flip-flop for generating the ring generation inhibit signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

8. (Cancelled).

9. (Currently amended) The ring relay control unit of claim ~~[[8]]~~¹, wherein the relay control device generates the relay control signal to interface the relay to the SLIC and transmits the ring generation inhibit signal to the ring signal generator if the relay interrupt command is received from the main control unit to interface the call signal to the subscriber telephone.

10. (Original) The ring relay control unit of claim 9, wherein the relay control device comprises a D flip-flop for generating the relay control signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

11. (Original) The ring relay control unit of claim 10, wherein the relay control device comprises a second D flip-flop for generating the ring generation inhibit signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

12. (Currently amended) A method of signaling a subscriber telephone using a ring relay control unit of a foreign exchange station, the method comprising~~the steps of~~:

generating a relay interrupt command ~~[[from]]~~ by a main control unit~~[[for]]~~;

generating a relay control signal and a ring generation inhibit signal ~~[[from]]~~ by a ring relay control device in response to the relay interrupt command from the main control unit;

generating a ring signal ~~[[with]]~~ by a ring signal generator for ~~[[to]]~~ the subscriber telephone in response to the ring generation inhibit signal; ~~[[signal, and]]~~

transmitting a synchronous signal to the relay control device, wherein the relay control device generates the relay control signal in response to the synchronous signal; and

selectively transferring the ring signal to the subscriber telephone, in response to the relay control signal, from the ring signal generator initially is set at a low voltage level,

wherein the low voltage level reduces generated switching noise and protects the relay from large initial voltage levels upon transition to the ring signal generator in response to the relay control signal.

13. (Currently amended) The method of claim 12, ~~the step~~ further comprising:

interfacing a call signal from a SLIC to the subscriber telephone, wherein the relay selectively transfers the call signal and the ring signal to the subscriber telephone from the SLIC and the ring signal generator and wherein the ring signal is initially transferred to the subscriber telephone upon a low voltage period of a cycle of the ring signal.

14. (Currently amended) The method of claim 12, wherein the synchronous signal transferred to the relay control device is a zero-crossing synchronous signal ~~which is~~ generated at a zero-crossing of the ring signal.

15. (Currently amended) A method of signaling a subscriber telephone using a ring relay control unit of a foreign exchange station, the method comprising:

generating a relay interrupt command from a main control unit;

generating a relay control signal and a ring generation inhibit signal from a ring relay control device in response to the relay interrupt command from the main control unit;

generating a ring signal with a ring signal generator to the subscriber telephone in response to the ring generation inhibit signal; and transmitting a synchronous signal to the relay control device, wherein the relay control device generates the relay control signal in response to the synchronous signal; and

selectively transferring the ring signal to the subscriber telephone from the ring signal generator using a relay in response to the relay control signal.

~~The method of claim 13,~~ wherein the relay control device generates the relay control signal to interface the relay to the SLIC and transmits the ring generation inhibit signal to the ring signal generator if the relay interrupt command is received from the main control unit to interface the call signal to the subscriber telephone.

16. (Original) The method of claim 12, wherein the relay control device comprises a D flip-flop for generating the relay control signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

17. (Original) The method of claim 15, wherein the relay control device comprises a D flip-flop for generating the relay control signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

18. (Original) The method of claim 16, wherein the relay control device comprises a second D flip-flop for generating the ring generation inhibit signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

19. (Original) A ring relay control unit of a foreign exchange station for signaling a subscriber telephone, the ring relay control unit comprising:

a main control unit for generating a relay interrupt command;

a relay control device connected to the main control unit to generate a relay control signal and a ring generation inhibit signal in response to the relay interrupt command from the main control unit;

a ring signal generator connected to the relay control device for generating a ring signal to the subscriber telephone in response to the ring generation inhibit signal, and for transmitting a synchronous signal to the relay control device, wherein the relay control device generates the relay control signal in response to the synchronous signal;

a SLIC for interfacing a call signal to the subscriber telephone; and

a relay for selectively transferring the call signal and the ring signal to the subscriber telephone from the ring signal generator in response to the relay control signal, wherein

the relay control device comprises a first delay device to generate the relay control signal and a second delay device to generate the ring generation inhibit signal in response to the relay interrupt command from the main control unit and the synchronous signal from the ring control generator.

20. (Original) A ring relay control unit of a foreign exchange station for signaling a subscriber telephone, the ring relay control unit comprising:

main control means for generating a relay interrupt command;

relay control means for generating a relay control signal and a ring generation inhibit signal in response to the relay interrupt command from the main control unit;

ring signal generating means for generating a ring signal to the subscriber telephone in response to the ring generation inhibit signal, and for transmitting a synchronous signal to the relay control means, wherein the relay control means generates the relay control signal in response to the synchronous signal; and

switching means for selectively transferring the ring signal to the subscriber telephone from the ring signal generating means in response to the relay control signal, wherein

the relay control means comprises a first delay means to generate the relay control signal and a second delay means to generate the ring generation inhibit signal in response to the relay interrupt command and the synchronous signal.